

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

SYCAMORE IP HOLDINGS LLC,

Plaintiff,

v.

AT&T CORP. ET AL.,

Defendants.

No. 2:16-cv-588-WCB

LEAD CASE

**SYCAMORE'S OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT
OF INVALIDITY UNDER 35 U.S.C. § 102(f) AND 35 U.S.C. § 102(a)**

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EX.	DESCRIPTION	SHORTHAND
1	Excerpts from transcript of Deposition of Dr. Danny Tsang (May 17, 2017)	Tsang Tr.
2	U.S. Provisional Patent Application No. 60/251,341 to Tsang et al. (December 5, 2000)	Provisional Application
3	Excerpts from Rebuttal Expert Report of Scott M. Nettles, Ph.D. on Behalf of Sycamore (Sept. 20, 2017)	Nettles Rebuttal Report
4	Excerpts from transcript of Deposition of Steve Gorshe, Ph.D. (Mar. 29, 2017)	Gorshe Tr.
5	Excerpts from transcript of Deposition of Zhi Ding (Oct. 13, 2017)	Ding Tr.
6	Excerpts from transcript of Deposition of Steve Barclay (July 6, 2017)	Barclay Tr.

Defendants contend that the Provisional Application of the Sycamore Patent does not meet the written description requirement for the claimed transition indicator. To prevail, Defendants must prove that no reasonable jury could find that the Provisional Application contains the necessary support for this term. Defendants have not met this heavy burden: their arguments amount to little more than noting that the term “transition indicator” itself does not appear in the Provisional Application and irrelevant observations concerning proceedings before the T1X1 standards setting committee.

The Provisional Application makes clear that the written description requirement is satisfied for transition indicator. A person of ordinary skill in the art at the time would understand that the named inventors had invented what is claimed. Indeed, during supplemental examination the U.S. Patent Office found that all of the claims, including the claimed “transition indicator ... for indicating the occurrence of a final control code in the encoded information stream,” were fully supported by the Provisional Application. And after undertaking a detailed analysis of the Provisional Application, Sycamore’s technical expert, Dr. Nettles, agreed. Based on this evidence, a reasonable jury could find that the asserted claims of the Sycamore Patent are supported by the Provisional Application. Defendants’ motion must be denied.

RESPONSIVE STATEMENT OF UNDISPUTED FACTS

A. DR. DANNY TSANG AND DR. MURAT AZIZOGLU OF SYCAMORE NETWORKS SOLVE THE INDUSTRY GFP-T PROBLEM¹

In the fall of 2000, Dr. Danny Tsang and Dr. Murat Azizoglu of Sycamore Networks developed a solution to a technological problem in the optical networking industry: how to efficiently and transparently transport certain kinds of client traffic over optical networks. *See* Tsang Tr. at 103:3–104:3, 109:24–110:15; Provisional Application at 1 (describing problem as

¹ “SUF” refers to Sycamore’s Responsive Statement of Undisputed Material Facts. For the reasons stated herein, Sycamore disputes Defendants’ statement of facts.

“relat[ing] to an efficient transport of packet traffic in optical communications networks employing synchronous signaling techniques, such as networks employing Synchronous Optical Network (SONET) or Synchronous Digital Hierarchy (SDW) signaling formats”). Their Provisional Application describes multiple embodiments that enable this efficient and transparent transport of client signals. *See generally*, Provisional Application at 5–17; *see also* Nettles Rebuttal Report at ¶¶ 55–56.²

Particularly instructive is Table 5 of the Provisional Application, which provides “one illustrative example” of a configuration of the coding scheme. Provisional Application at 14.

Table 5

0	D1		D2		D3		D4		D5		D6		D7		D8
	(all data)														
1	0aaa	C1	D1		D2		D3		D4		D5		D6		D7
	(1 control code)														
1	10aa	abbb	C1	C2	D1		D2		D3		D4		D5		D6
	(2 control codes)														
1	110a	aabb	bccc	C1	C2	C3	D1		D2		D3		D4		D5
	(3 control codes)														
1	1110	aaab	bbcc	cddd	C1	C2	C3	C4	D1		D2		D3		D4
	(4 control codes)														
1	1111	0aaa	bbbc	ccdd	deee	C1	C2	C3	C4	C5	D1		D2		D3
	(5 control codes)														
1	1111	10aa	abbb	cccd	ddee	efff	C1	C2	C3	C4	C5	C6	D1		D2
	(6 control codes)														
1	1111	110a	aabb	bccc	ddde	eeff	fggg	C1	C2	C3	C4	C5	C6	C7	D1
	(7 control codes)														
1	1111	1110	aaab	bbcc	cddd	eeef	ffgg	ghhh	C1	C2	C3	C4	C5	C6	C7
	(8 control codes)														

Legend:

aaa - hhh = 3-bit representation of the first-eighth control code's original position

Ci = 4-bit representation of the i-th control code

Di = 8-bit representation of the i-th data

After the positions of the control codes are determined, the remaining positions are filled by the data in ascending order starting with D1.

² For a more detailed discussion of the provisional application disclosures, see Nettles Rebuttal Report at ¶¶ 53–115.

In this example, the input on the transmitting side is groups of eight 8b/10b line coded characters. Each of these characters represents control or data information, and contains 8 bits of information encoded into a 10-bit representation to reduce transmission errors. Each row in Table 5 corresponds to one of the possible numbers of control characters in the eight character input, from no control characters (*i.e.*, all data) in the first row to eight control characters in the ninth row. Each group of eight input characters is then encoded into 65 bits for transmission (*e.g.*, as shown in the rows of Table 5). This encoding efficiently compresses the 80 total input bits (*i.e.*, eight 8b/10b characters) to 65 output bits. And it is transparent because it retains all input information (both data and control) and adds information enabling the receiving side to decode the 65 bits and recreate the original 80 bit input.

Compression is achieved by coding 10-bit 8b/10b data characters back to their 8-bit representations and by coding 10-bit control characters to 4-bit control codes. *See, e.g.*, Provisional Application at 11, 14. As noted in the Table 5 legend, each “Ci” is a “4-bit representation of the i-th control code” and each “Di” is an “8-bit representation of the i-th data.” *Id.* at 14. For transparency, the encoding scheme must include information that allows the receiving side to decode the transmission and recreate the original input. The invention achieves this by adding information to the transmission that tells the receiving device whether the corresponding input included control information and identifying the positions of the control and/or data characters in the original input. *See, e.g., id.* at 13–17.

In the specific example given in Table 5, when the input contains no control characters, the first bit is set to 0; when it includes control, the first bit is set to 1. *See, e.g., id.* at 13-14. When the input includes control information, this embodiment uses what the Provisional Application refers to as a “data/control sequence field” (also referred to as a “control location

field” for this embodiment) that tells the receiving side how many control characters are in the input group and where they are located. *Id.* at 13–17.

To tell the receiving side how many control characters are in the input group, the field uses consecutive 1s followed by a 0. For example, the eight consecutive 1s in the ninth row represent eight control codes. *Id.* at 13–15. A “0” terminates these consecutive 1s to indicate there are no more control words and the portion of the variable field is finished:

The first part of the control location field includes a variable number of bits, each indicating the presence of a corresponding code word. After all of the input words have been received and therefore all of the control code words have been detected, a zero is inserted in this field to indicate the end of the first part of the variable field. For example, if three control code words are detected, the first part of the control location field is 1110 and if seven control code words are detected, the field is 11111110.

Id. at 15. Simply put, the 0 indicates the occurrence of a final control code in an encoded information stream. *Id.*

The data/control sequence field then “indicates the location of each control code.” *Id.* at 14. Table 5, for example, uses triple lower case letters, such as aaa, bbb, etc. *Id.* These triple letters are an example of a “field of predetermined length ... which is able to represent the position in the data stream where a control code word is present.” *Id.* at 15–16. Triple letters are used in this example because the eight character input has eight possible positions, and a field of three binary digits is able to uniquely represent eight different values. *Id.* at 16.

Finally, in this embodiment, the system encodes the input control characters to the shorter encoded control codes (*e.g.*, C1, C2, etc. shown in Table 5) and “outputs a data stream, which includes the control location field followed by the encoded control code words and any data words to the network.” *Id.*; *see also id.* at 16–17 (explaining decoding). Dr. Tsang’s and Dr. Azizoglu’s method thus provided the fundamental solution needed to enable the transparent and efficient transport of client signals. *Id.* at 17.

B. DR. GORSHE REARRANGED CERTAIN BITS TO ADD BYTE ALIGNMENT

Dr. Tsang introduced Dr. Gorshe to the invention in the Provisional Application during a call regarding a submission to the T1X1 standards body. Gorshe Tr. at 269:8–22. Dr. Gorshe felt the Sycamore encoding scheme would be improved if it was also byte aligned. *Id.* at 50:10–22. Dr. Gorshe therefore developed a byte aligned version of the encoding scheme by rearranging certain bits in Sycamore’s encoding scheme, as can be seen by comparing Table 5 of the Provisional Application and Figure 14 of the December 29, 2000 T1X1 submission. Provisional Application at 14; D.I. 179-06 at 7.

The first and second rows are identical because the Sycamore bit order is already byte aligned for those inputs. Beginning with the third row, Dr. Gorshe moved some of the initial 1 and 0 bits and location pointers (*e.g.*, “bbb”) to be byte aligned, as shown below.

Sycamore	1	10aa	abbb	C1	C2	D1	D2	D3	D4	D5	D6
Gorshe	1	1aaa	C1	0bbb	C2	D1	D2	D3	D4	D5	D6

As is clear from the illustration, Defendants’ claim that Dr. Gorshe removed the field at the start (*i.e.*, the 110aaabbb at the beginning of the Sycamore row) is incorrect. D.I. 179 at 7. Dr. Gorshe did not add or remove these or any other bits; he just “rearrange[d]” some of them. Gorshe Tr. at 229:7–230:17.

C. THE U.S. PATENT OFFICE FOUND THE TRANSITION INDICATOR AND ALL OTHER CLAIM ELEMENTS FULLY SUPPORTED BY THE PROVISIONAL APPLICATION

Defendants’ Motion omits that the Sycamore Patent underwent supplemental examination and the examiner found all claims of the Sycamore Patent “are fully supported by the Provisional Application.” D.I. 96-7 at 4. The examiner found that “a transition indicator ...

for indicating the occurrence of a final control code in the encoded information stream” was fully supported by the Provisional Application. *See* D.I. 1-1 at 9:37–39; D.I. 96-7 at 4.

As part of the supplemental examination, Sycamore provided a chart connecting the content of the Provisional Application to the claims of the Sycamore Patent—including the Application’s discussion and illustration of the claimed transition indicator:

Claims of the '405 Patent	Support Evidence in the Provisional Application (filed on 12/5/2000)																																																																																																																																																																		
(ii) generating a transition indicator based on the number of control characters for indicating the occurrence of a final control code in the encoded information stream,	<p>However, if the rate optimizing encoder determines that control code words are present, the control location field is generated. The first part of the control location field includes a variable number of bits, each indicating the presence of a corresponding code word. After all of the input words have been received and therefore all of the control code words have been detected, a zero is inserted in this field to indicate the end of the first part of the variable field. For</p> <p><i>Id.</i> at 15.</p>																																																																																																																																																																		
Claims of the '405 Patent	Support Evidence in the Provisional Application (filed on 12/5/2000)																																																																																																																																																																		
	<p>Table 5</p> <table><tr><td>0</td><td>D1</td><td>D2</td><td>D3</td><td>D4</td><td>D5</td><td>D6</td><td>D7</td><td>D8</td></tr><tr><td>(all data)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>0aaa C1</td><td>D1</td><td>D2</td><td>D3</td><td>D4</td><td>D5</td><td>D6</td><td>D7</td></tr><tr><td>(1 control code)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>10aa abbb C1 C2</td><td>D1</td><td>D2</td><td>D3</td><td>D4</td><td>D5</td><td>D6</td><td></td></tr><tr><td>(2 control codes)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>110a aabb bccc C1 C2 C3</td><td>D1</td><td>D2</td><td>D3</td><td>D4</td><td>D5</td><td></td><td></td></tr><tr><td>(3 control codes)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>1110 aaab bbcc cddd C1 C2 C3 C4</td><td>D1</td><td>D2</td><td>D3</td><td>D4</td><td></td><td></td><td></td></tr><tr><td>(4 control codes)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>1111 0aaa bbbc cddd deee C1 C2 C3 C4 C5</td><td>D1</td><td>D2</td><td>D3</td><td></td><td></td><td></td><td></td></tr><tr><td>(5 control codes)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>1111 10aa abbb cccd ddee efff C1 C2 C3 C4 C5 C6</td><td>D1</td><td>D2</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>(6 control codes)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>1111 110a aabb bccc ddde eeff fggg C1 C2 C3 C4 C5 C6 C7</td><td>D1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>(7 control codes)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>1111 1110 aaab bbcc cddd eeef fggg ghgh C1 C2 C3 C4 C5 C6 C7 C8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>(8 control codes)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> <p>Legend: aaa - hhh = 3-bit representation of the first-eighth control code's original position Ci = 4-bit representation of the i-th control code Di = 8-bit representation of the i-th data After the positions of the control codes are determined, the remaining positions are filled by the data in ascending order starting with D1.</p> <p><i>Id.</i> at 14.</p>	0	D1	D2	D3	D4	D5	D6	D7	D8	(all data)									1	0aaa C1	D1	D2	D3	D4	D5	D6	D7	(1 control code)									1	10aa abbb C1 C2	D1	D2	D3	D4	D5	D6		(2 control codes)									1	110a aabb bccc C1 C2 C3	D1	D2	D3	D4	D5			(3 control codes)									1	1110 aaab bbcc cddd C1 C2 C3 C4	D1	D2	D3	D4				(4 control codes)									1	1111 0aaa bbbc cddd deee C1 C2 C3 C4 C5	D1	D2	D3					(5 control codes)									1	1111 10aa abbb cccd ddee efff C1 C2 C3 C4 C5 C6	D1	D2						(6 control codes)									1	1111 110a aabb bccc ddde eeff fggg C1 C2 C3 C4 C5 C6 C7	D1							(7 control codes)									1	1111 1110 aaab bbcc cddd eeef fggg ghgh C1 C2 C3 C4 C5 C6 C7 C8								(8 control codes)								
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D.I. 89-4 at 232–33. The examiner incorporated this analysis into his decision. D.I. 96-7 at 4.

D. TECHNICAL EXPERT DR. NETTLES OPINED THAT ONE OF ORDINARY SKILL IN THE ART WOULD HAVE UNDERSTOOD THE NAMED INVENTORS TO HAVE INVENTED THE TRANSITION INDICATOR AT THE TIME OF THE PROVISIONAL APPLICATION

Technical expert Dr. Nettles performed a detailed analysis of the Provisional Application that spanned over seven pages of his report. Nettles Rebuttal Report at ¶¶ 86–104. He opined that a person of ordinary skill in the art at the time of the Provisional Application would have understood that Dr. Tsang and Dr. Azizoglu invented what is claimed in the Sycamore Patent, including the claimed transition indicator. *See id.* at ¶ 45. He disagreed with Defendants’ experts’ “assertions that the claimed ‘transition indicator’ is not disclosed in and fully supported by the Provisional Application” because those “arguments ... amount to little more than emphasizing that the term ‘transition indicator’ itself does not appear in the Provisional Application.” *Id.* at ¶¶ 51–52; *see also id.* at ¶ 86 (adding that “the claim limitations of ‘generating a transition indicator’ with more than one bit and the ‘combining’ limitations” are also fully disclosed).

LEGAL STANDARD

To meet the written description requirement a specification must “describe the invention sufficiently to convey to a person of skill in the art that the patentee had possession of the claimed invention at the time of the application, *i.e.*, that the patentee invented what is claimed.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1345 (Fed. Cir. 2010) (*en banc*). “[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Id.* at 1351; *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). To pass that test, “the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Ariad Pharms.*, 598 F.3d at 1351.

“Compliance with the written description requirement is a question of fact, and summary judgment is appropriate only if no reasonable fact finder could return a verdict for the non-

moving party on the issue.” *Scriptpro, LLC v. Innovation Assocs., Inc.*, 762 F.3d 1355, 1359 (Fed. Cir. 2014) (quotations omitted). “To overcome the presumption of validity of patents, the [defendant] must show that the claims lack a written description by clear and convincing evidence.” *Hynix Semiconductor, Inc. v. Rambus, Inc.*, 645 F.3d 1336, 1351 (Fed. Cir. 2011).

ARGUMENT

I. DEFENDANTS HAVE FAILED TO SHOW BY CLEAR AND CONVINCING EVIDENCE THAT TRANSITION INDICATOR LACKS A WRITTEN DESCRIPTION IN THE PROVISIONAL

Defendants do not dispute that the Provisional Application discloses an example of an encoding scheme that uses a transition indicator as that term has been construed. Indeed, the identical encoding scheme appears in the Provisional and Non-provisional Applications. *See, e.g.*, Provisional Application at 14, Table 5 and D.I. 1-1 at Fig. 6. Instead, Defendants ignore that example and rely on partial statements describing it. In essence, Defendants argue the provisional must contain the exact words of the specification. That is not the law. *Ariad Pharms.*, 598 F.3d 1352. Likewise, Dr. Gorshe’s purported disclosures that occurred between the Provisional and Non-Provisional applications are entirely irrelevant to the written description inquiry. Defendants have not carried their burden to show a lack of written description by clear and convincing evidence.

A. THE NAMED INVENTORS INVENTED AN ENCODING SCHEME WITH THE CLAIMED TRANSITION INDICATOR AND DISCLOSED IT IN THE PROVISIONAL APPLICATION

The Provisional Application describes an encoding scheme that includes a transition indicator of one or more bits that indicate the occurrence of a final control code in an encoded information stream. *See* Provisional Application at 13-17. Particularly instructive here is an embodiment of the invention for which Table 5 of the Provisional Application provides “one illustrative example” of a configuration of the coding scheme. *Id.* at 14. Below is an annotated version of Table 5, which illustrates the transition indicator at work:

0	D1	D2	D3	D4	D5	D6	D7	D8
(all data)								
1	0aaa	C1	D1	D2	D3	D4	D5	D6
(1 control code)								
1	10aa	abbb	C1	C2	D1	D2	D3	D4
(2 control codes)								
1	110a	aabb	bccc	C1	C2	C3	D1	D2
(3 control codes)								
1	1110	aaab	bbcc	cddd	C1	C2	C3	C4
(4 control codes)								
1	1111	0aaa	bbbc	ccdd	deee	C1	C2	C3
(5 control codes)								
1	1111	10aa	abbb	cccd	ddee	efff	C1	C2
(6 control codes)								
1	1111	110a	aabb	bccc	ddde	eeff	fggg	C1
(7 control codes)								
1	1111	1110	aaab	bbcc	cddd	eeef	ffgg	ghhh
(8 control codes)								

Legend:

aaa - hhh = 3-bit representation of the first-eighth control code's original position

Ci = 4-bit representation of the i-th control code

Di = 8-bit representation of the i-th data

After the positions of the control codes are determined, the remaining positions are filled by the data in ascending order starting with D1.

As discussed, the portion highlighted in yellow is the “data/control sequence field”) (or “control location field”) and the 0 boxed in red is a transition indicator “to indicate the end of the first part of the variable field.” *Id.* at 15. The 0 signals that the control code that corresponds to the 1 immediately preceding the 0 is the final control code in the encoded information stream. Take for example the below annotated version of the third row corresponding to two control codes. The first two 1s each indicate the presence of a corresponding code word, *i.e.*, C1 for the first 1 and C2 for the second 1. The 0 in the third position then indicates that all of the control codes have been accounted for and that C2 (the control code corresponding to the 1 that immediately preceded the 0) is the final control code in the encoded information stream.

This is true for each 0 in a red box in the annotated version of Table 5 set forth above.³

The first 0 also indicates exactly where the final control code is located in the encoded information stream. The first 0 is followed by the second part of the control location field, which includes one or more “field[s] of predetermined length [that] is able to represent the position in the data stream where a control code word is present,” such as the aaa, bbb, etc. of Table 5. *Id.* at 14–16. Because the first 0 identifies the number of control codes and there is one location field of predetermined length (*e.g.*, aaa) per control code, the 0 tells the system the size of the second part of the control location field. Then after the control location field are the encoded control code words (C1, C2, etc.) and any data words (D1, D2, etc.). *Id.* at 14, 16.

Referring again to the annotated version of the third row of Table 5 as an example, the first 0 occurring in the third position indicates there are two control codes. *Id.* at 14. The first 0 must therefore be followed by the two fields of predetermined length (*i.e.*, aaa and bbb) that represent the position in the data stream of the two control code words. *Id.* Following the 0 in the third position with two three bit fields means the control information will begin at the tenth position. *Id.* Because encoded control codes are each four bits, the system knows control code C1 occurs at bits eleven through fourteen and control code C2 (known to be the second and final control code based on the first 0 in the third position) occurs at bits fifteen through eighteen. *Id.*

At his deposition, defendant Verizon’s technical expert Dr. Ding agreed that for the encoding scheme disclosed in Table 5, the first 0 in a row indicates the occurrence of a final control code in an encoded information stream:

Q. For instance, if the zero is in the third position, as it is in the row 2 control codes, you know that there are two control codes and where the last of the control codes is?

³ Additionally, in a given row the 0 and all 1s preceding it is also a transition indicator. *See also*, Nettles Rebuttal Report at ¶ 107.

A. Following this table, you would know, provided that anything before that zero is all one.

Ding Tr. at 76:3-10.

Considering this embodiment from the perspective of a receiving device further illustrates that the first 0 indicates the occurrence of a final control code in an encoded information stream. Assume the device receives a stream with a 1 in the first position:

1

When this occurs, the receiving device knows that the stream includes control information that must be decoded. Provisional Application at 16 (“If the rate optimizing decoder detects that the indicator bit is set, the control location field must be decoded.”). But the initial 1 by itself does not tell the receiving device how many control codes are present.

Next assume the bits in the second through fifth position are also 1s and the bit in the sixth position is the first 0:

1 1111 0

This tells the receiving device there are five control codes (C1 through C5). *Id.* at 16–17 (“The number of consecutive set bits before the first zero bit occurs are counted to determine the number of control fields that are present.”). The first 0 occurring in the sixth position indicates to the receiving device the occurrence of a final control code (C5) in an encoded information stream and also tells the receiving device the exact position of final control code C5 in the encoded information stream.

The receiving device knows that because there are five control codes, there must be five fields that each indicate the location of one of the control codes (*i.e.*, aaa for C1, bbb for C2, ccc for C3, ddd for C4, and eee for C5). *Id.* at 17 (“Once the number of control fields is known, the location fields may be determined. Because the field for each location is a fixed number of bits

and the number of control fields are known, the location field for each encoded control code word can be read.”).

1 1111 0aaa bbbc ccdd deee [REDACTED]

The receiving device further knows the positions of the five encoded control code words that follow, including final control code C5, based on the 0 in the sixth position that indicated the presence of five control words. *Id.* (“The encoded control code words follow in known positions based on the previously detected number and the length of each encoded control code word.”).

1 1111 0aaa bbbc ccdd deee C1 C2 C3 C4 C5 [REDACTED]

Finally, the receiving device knows that because the eight character input included five control, it must also include three data words, which complete the encoded information stream. *Id.* (“Any data words present will follow the last encoded control code word.”).

1 1111 0aaa bbbc ccdd deee C1 C2 C3 C4 C5 D1 D2 D3

This logic applies to each Table 5 row corresponding to an input with control information, and the Provisional Application therefore discloses to one of ordinary skill in the art that the first 0 in each such row indicates the occurrence of a final control code in an encoded information stream. *Id.* at 14–17. In view of this analysis, a reasonable jury could find that the Provisional Application meets the written description requirement for transition indicator.

B. THE U.S. PATENT OFFICE FOUND A “TRANSITION INDICATOR ... FOR INDICATING THE OCCURRENCE OF A FINAL CONTROL CODE IN THE ENCODED INFORMATION STREAM” IS “FULLY SUPPORTED” BY THE PROVISIONAL APPLICATION

Defendants’ arguments that the Provisional Application does not disclose the claimed transition indicator are further refuted by the examiner’s finding during supplemental examination. As discussed, the examiner found that the Provisional Application “fully support[s]” all claims of the Sycamore Patent, including “a transition indicator ... for indicating

the occurrence of a final control code in the encoded information stream.” *See* D.I. 1-1 at 9:37–39; D.I. 89-4 at 232–33; D.I. 96-7 at 4. Accordingly, “the effective filing date ... is the filing date of the Provisional Application, December 5, 2000.” D.I. 96-7 at 4.

The examiner’s determination is entitled to substantial deference. *See, e.g., Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1573 (Fed. Cir. 1985). And the examiner’s determination may be evidence of how a person of skill in the art would understand the Provisional Application and the claimed transition indicator. *See Salazar v. Proctor & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005). That determination is further evidence upon which a reasonable jury could rely to determine the Provisional Application supports transition indicator.

C. TECHNICAL EXPERT DR. SCOTT NETTLES OPINED THAT THE CLAIMED TRANSITION INDICATOR IS DISCLOSED IN THE PROVISIONAL APPLICATION

A reasonable jury could also determine the claimed transition indicator is entitled to the Provisional Application priority date based on Dr. Nettles’s thorough analysis and resulting opinions that the Provisional Application fully supports the claimed transition indicator and “describes the invention in sufficient detail that one skilled in the art at the time of the invention would clearly conclude that the Sycamore Patent inventors invented what is claimed in the Asserted Claims of the Sycamore Patent.” Nettles Rebuttal Report at ¶¶ 45, 51–52, 86. Tellingly, Defendants fail to address the substance of Dr. Nettles’s analysis and instead merely make the unsupported claim that Dr. Nettles engaged in impermissible hindsight. D.I. 179 at 15–16.

II. DR. GORSHE WAS NOT AN INVENTOR OF THE SYCAMORE PATENT

As shown above, a person of ordinary skill in the art at the time would have understood from the Provisional Application that the named inventors invented what is claimed. Dr. Gorshe was not one of those inventors. He testified that there is no way any ideas in the Provisional Application could have come from him and that he had not even started work on a transparent

transcoding scheme when the Provisional Patent was filed. Gorshe Tr. at 269:8–17, 270:1–6. Dr. Gorshe’s first involvement was later, on December 13, when he had a call with Dr. Tsang, who explained the invention. *Id.* at 269:20–22.

If Defendants truly believe that Dr. Gorshe invented the transition indicator, then they should have asked him to establish that at his deposition. Although outside counsel for defendants Verizon and Level 3 had a private meeting with Dr. Gorshe before his deposition, *id.* at 296:2–297:12, they did not ask Dr. Gorshe any questions about the transition indicator or inventorship of the Sycamore Patent. This is unsurprising because Dr. Gorshe did not invent the transition indicator or any other elements of the Sycamore Patent.

Defendants’ argument that Dr. Gorshe invented the transition indicator when he byte-aligned the Sycamore encoding scheme is inconsistent with the fact that he just rearranged the bits, as he admitted. *Id.* at 229:7–230:17. And in any case, the Provisional Application fully supports the transition indicator.

III. FACT DISPUTES ABOUT THE PUBLIC AVAILABILITY OF REFERENCES AND WHETHER THEY WERE INVENTED BY ANOTHER PRECLUDE SUMMARY JUDGMENT

Finally, Defendants have failed to establish that the standards submissions qualify as prior art. There is neither clear nor convincing evidence that the standards submission would have been publicly available in the two months between late December 2000 and late February 2001, when the Non-provisional Application was filed. Defendants claim these submissions were available online, but Dr. Gorshe (who was vice chairman of the relevant T1X1.5 working group and who held other senior roles in T1X1) was not sure that the submissions could be found through key word searching on the Internet at the time. *Id.* at 15:9–20, 289:10–22. He also testified that, even if they could be, a person would need login credentials to download the documents. *Id.* at 289:1–4. Likewise, the ATIS corporate representative did not know whether

T1 documents like the standards submissions at issue were indexed by search engines or web crawlers so others could find such documents by searching online. Barclay Tr. at 138:8–139:8, 140:7–141:22. *Voter Verified, Inc. v. Premier Election Sols., Inc.*, 698 F.3d 1374, 1380 (Fed. Cir. 2012). Additionally, Dr. Tsang is an author on all of the standards submissions, which all originated with the Sycamore coding scheme, and there is neither clear nor convincing evidence that any elements of the submissions relevant to the Sycamore Patent claims were by another.

Based on all of the above evidence, a reasonable jury could find that named inventors Dr. Tsang and Dr. Azizoglu conceived of and disclosed the claimed transition indicator in their Provisional Patent, filed in December 2000.

CONCLUSION

For the foregoing reasons, Defendants' Motion for Summary Judgment of Invalidity Under 35 U.S.C. § 102(f) and 35 U.S.C. § 102(a).

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CERTIFICATE OF SERVICE

I hereby certify that the counsel of record who are deemed to have consented to electronic service are being served today with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3).

Dated: October 19, 2017

/s/ Eric P. Berger

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